

HH BURN PIT SITE



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Soil Removal Nears Completion

On August 13, the **Potentially Responsible Parties (PRPs)*** began to remove contaminated soil from the HH Burn Pit site in Hanover County, Virginia (see photos). These soil removal activities should be completed by the end of the month. As part of the soil removal process PRP contractors excavate contaminated soil using a bucket loader and trackhoe. This equipment is used to dig up contaminated soil and load it into trucks for shipment to approved offsite disposal facilities. After soil removal is complete, the contractors will backfill and seed the area to prevent **erosion**.

EPA Will Verify That Soil Clean-up Goals Are Met

As each area of excavation is completed, the PRPs will take samples to confirm that the cleanup is working. They will test these samples in a laboratory to verify that they have met clean-up goals in that area. EPA will independently verify several of these results by taking samples and analyzing them in a different lab. EPA will then compare the results to see whether they agree. If additional soil removal is necessary, the PRPs will

remove more soil until the remaining soil meets the clean-up goals.

What's Next?

Once soil removal is complete, the PRPs will sample the sediments at selected locations in the intermittent stream and the Black Haw Branch. These are downstream areas that may have been contaminated by runoff from the burn pits. The PRPs will then excavate sediments contaminated above clean-up levels established in the **Record of Decision (ROD)**. These contaminated sediments will be trucked to approved offsite disposal facilities.

While cleaning up the sediments, the PRPs will continue working on the groundwater treatment system. Work planned for the coming months will include a series of design studies and tests.

The ROD calls for treating contaminated groundwater by **precipitation** and **sedimentation** to remove metals and by ultraviolet (UV) oxidation to destroy organics.

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A bulldozer moves contaminated soil on the site. Contaminated soil will be loaded onto trucks for shipment to approved offsite disposal facilities. As each section of soil removal is completed, samples will be tested to verify that the cleanup is working.

* Terms in bold are defined in the glossary on page 3.

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The ROD also states that the PRPs may perform treatability studies during the remedial design to explore the potential of Air Sparging and Soil Vapor Extraction (AS/SVE) (see box below). These technologies accelerate the removal of contamination from saturated soils and groundwater at the site. The PRPs have informed EPA that they intend to conduct AS/SVE treatability studies this fall. These treatability studies will include a **pilot scale** field test of an AS/SVE system. The PRPs will run tests to find out if the technology will successfully address problems at the site before they develop a full-sized unit.

Before beginning the AS/SVE studies, however, the

PRPs will conduct a test to gather important data about how water moves in the **aquifer** below the site. This test, known as the aquifer pump test, is performed in two parts. It consists of drilling a test well and pumping groundwater out of the well at a known rate, while recording water-level data in the test well and surrounding wells. This data allows the designers to measure several things, including how quickly contaminated water can be pumped out of the ground without pumping the well dry. The data gathered will allow the designers to choose appropriate flow rates and well spacing for the treatment system.

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How Does Air Sparging/Soil Vapor Extraction Work?

AS/SVE removes **volatile** compounds from groundwater. Air is blown into the ground and bubbles up through the groundwater. As air bubbles rise through the groundwater, volatile compounds move from the groundwater into the air bubbles. When the air bubbles rise to the top of the groundwater, they become part of the **soil vapor**. The soil vapor is then pumped out of the ground and treated to remove the volatile compounds. Now clean, the remaining air is released to the atmosphere. ■

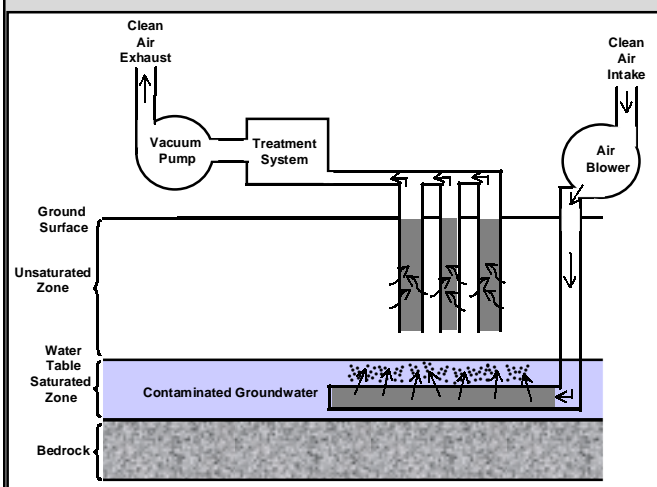


Figure 1 — This diagram shows a typical AS/SVE system.

How Do UV Oxidation Systems Work?

This technology destroys organic pollutants by exposing them to high-energy ultraviolet light. PRP contractors pump contaminated groundwater out of the ground and run it through a system containing electrically powered UV lamps. The high energy of the UV rays destroys organic pollutant molecules by breaking the chemical bonds that hold them together. After this happens, it is safe to discharge the treated water to the intermittent stream. ■

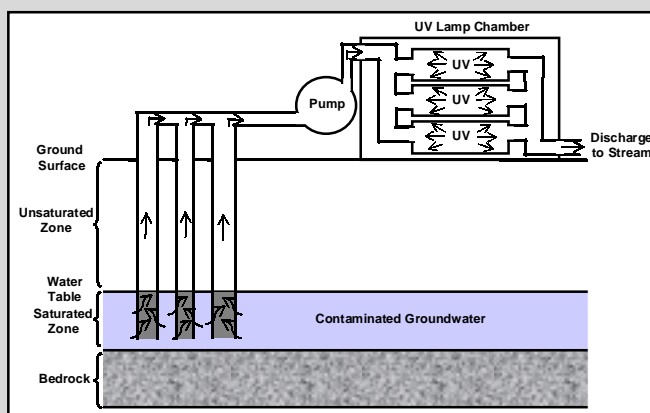


Figure 2 — This diagram shows a typical UV oxidation system.

Community Residents Needed

EPA is looking for community residents to participate in interviews about the HH Burn Pit Superfund Site. In order to address community concerns and maintain effective communication with local residents, EPA will arrange interviews in residents' homes or local meeting places to discuss questions, concerns, and issues related to the site.

To learn more about the community interview process or to request an interview, please contact Vance Evans, Community Involvement Coordinator, at (215) 814-5526. ■

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The PRPs are also planning to test several UV oxidation systems for treatment of site groundwater (see box). Several vendors of these treatment systems will conduct treatability studies on untreated and pretreated site groundwater.

Finally, the PRPs will continue to evaluate the possibility that **natural attenuation** is occurring at the site. If natural attenuation is found to be occurring, they will explore its effect on the remedial design. ■

Information on the Internet



Additional information on the HH Burn Pit Superfund Site may be accessed via the Internet at "www.epa.gov/region03." EPA's

website contains previous fact sheets on the site, background on the Superfund program and information about general environmental issues. ■

Glossary

Aquifer: An underground geologic formation, or group of formations, containing usable amounts of groundwater that can supply wells and springs.

Erosion: The wearing away of soil by wind or water, intensified by land-clearing practices related to farming, residential or industrial development, road building, or logging.

Ground Water: Fresh water found underground that fills gaps between soil, sand and gravel. It is often a major source of drinking water.

Natural Attenuation: Physical, chemical, or biological processes that act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants.

Pilot Scale: A pilot scale test is a much smaller version of the technology that would be used to treat the site.

Potentially Responsible Parties (PRPs): The companies or individuals responsible for the cleanup of contamination at a Superfund site.

Precipitation: Removal of hazardous solids from liquid waste to permit safe disposal.

Record of Decision (ROD): A document that announces and explains EPA's selected clean-up method(s). The ROD is based on information gathered during the remedial investigation and feasibility study and on comments received during the public comment period.

Sedimentation: Letting solids settle out of wastewater by gravity during treatment.

Soil Vapor: Gases that fill the spaces between soil particles.

Volatile: Any substance that evaporates readily.

Water Table: The level or depth of water beneath the earth's surface. ■

For More Information



If you have any questions or would like additional information about the HH Burn Pit Superfund Site, please contact:

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EPA periodically distributes information updates on the HH Burn Pit Superfund Site and announcements of upcoming meetings. If you would like to be added to EPA's mailing list and receive updates and announcements, please call Vance Evans at one of the phone numbers above. ■

To Review Site Records

Information about the HH Burn Pit Superfund Site is available for review in the Administrative Record File (AR). The AR is EPA's official collection of documents, data, reports and other information that supports EPA's decision regarding site cleanup. You may review the AR at the information repository listed below:



Pamunkey Regional Library
Ashland Branch
201 South Railroad Avenue
Ashland, VA 23005
(804) 798-4072
Contact: Suzanne Spivey

Hours: Monday - Thursday 10 a.m. - 9 p.m.
Friday - Saturday 10 a.m. - 6 p.m.

You may also make an appointment to review the file at the EPA Administrative Records Room in Philadelphia, Pennsylvania, by calling (215) 814-3157. ■

HH Burn Pit Superfund Site Progress Update



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